

Amendments to the Specification:

Please replace the paragraph beginning at page 13, line 13, with the following redlined paragraph:

The advantages of the invention over prior methods of achieving the necessary loads are several. First, the tie rod nuts 110 may be installed at a relatively low torque. For example, a torque of around 25 ft-lbs may be adequate, which is a simple task when compared to the 700 ft-lbs of the prior method. The force exerted by the pressurized load chamber 164 on the valve body is independent of the exact distribution of tensile load exerted on the tie rods 172 by the torque nuts 174. Thus, unequal tensile loads on the tie rods are balanced, ensuring that the force of the valve body 154 is equally distributed on the static seal 156 and cylinder 102. Second, when the pressure in the load chamber is released, the torque required to remove the tie rod nuts 174 is the same nominal torque used to install them, resulting in significant reduction in time and effort needed to disassemble or reassemble the pump head 150. Third, because the load chamber 164 may be configured to exert sufficient downward force on the static seal 156 under pressures that are significantly lower than the output pressure of the pump 150, seals 158, configured to maintain pressure in the load chamber 164 are not required to operate at the same high pressures as the static seals 156. Additionally, again, because of the lower pressures required in the ~~pressure-load~~ chamber 164, supply and compression lines configured to supply pressure to the load chamber 164 need not be as robust.

Please replace the paragraph beginning at page 16, line 16, with the following redlined paragraph:

Figure 9 illustrates a pump head 220 according to an additional embodiment of the invention. In addition to features previously described, the pump head 220 includes an outlet chamber 274 configured to receive pressurized fluid from the cylinder 102, an outlet passage 278, a pressure loading cap 222, and a load chamber 224 formed therein. A pressure transmitting member 226 is positioned within the load chamber 224, and a pressure input port 228 is provided. A pressure source 230, external to, and independent of pressure from the pump, provides pressure to the load chamber 224 via a check valve 176, and the pressure input port 228. Prior to operation of the pump 220, the load chamber 224 is pressurized by the pressure source

230. The pressure transmitting member 226 transmits the force in the load chamber 224 to an upper surface 232 of the end cap 223, which force loads the tie rods 108, and biases the static seal ~~116~~156. The surface area of the pressure transmitting member 226, where the member bears against the upper surface 232 of the end cap ~~106~~223, is selected to be greater than the surface area of the bottom surface 172 of the valve body. Accordingly, as previously described, the pressure required within the load chamber 224 is correspondingly less than the pressure produced within the cylinder 102. Thus, seals, linkages, and conduits, between the pressure source 230 and the load chamber 224, may be correspondingly less robust than otherwise required, and accordingly less expensive to produce and maintain.